## Evaluation of the City of Portland's Carsharing Pilot Program June 2004 – July 2005

Portland Office of Transportation

## Evaluating the City of Portland's Carsharing Pilot Program

In June 2004, the Portland Office of Transportation (PDOT) established a one-year carsharing pilot program with Flexcar Portland. The pilot program's primary goal was to evaluate the costs and benefits of supporting carsharing. The following evaluation includes a brief overview of the origins of carsharing and its development in the United States and in Portland, a description of the City's Carsharing Pilot Program, and a detailed evaluation of the Carsharing Pilot Program. This report is organized around four evaluation criteria: 1) public benefits; 2) environmental benefits; 3) operational and enforcement issues; and 4) administrative (revenue) issues. It also includes information about the utilization rates of parking spaces reserved for Flexcar vehicles and Flexcar's profitability.

PDOT currently provides 33 metered spaces for Flexcar's exclusive use, an indirect subsidy worth more than \$60,000 in foregone meter revenue and administrative costs in 2005. In light of PDOT's projected budget shortfall for FY 2006-2007 of approximately \$8 million, continued support of carsharing through the provision of discounted on-street metered parking spaces is an important policy issue. This evaluation's purpose is to examine the costs and benefits of supporting carsharing. The conclusions of this evaluation will inform the development of permanent carsharing policies.

The second phase of this carsharing evaluation will include developing a permanent carsharing policy that recommends 1) permit rates for reserved on-street parking spaces that address cost of service and revenue loss from metered spaces; 2) a system for allocating reserved parking spaces for carsharing vehicles; and 3) operational and enforcement procedures for reserved carsharing parking spaces. These policy recommendations will be designed to accommodate multiple carsharing organizations in the Portland market.

## Portland Car Share Pilot Program

The creation of CarSharing Portland in 1998 was the outgrowth of a feasibility study co-sponsored by the Oregon Department of Environmental Quality (DEQ) and PDOT. Based on study results suggesting carsharing would work in Portland, DEQ issued a request for proposal. Dave Brooks' and Richard Katzev's proposal to start a for-profit carsharing organization was selected to receive marketing seed money. Initially, Carsharing Portland parked its vehicles in off-street spaces, but experienced difficulty in finding spaces in some areas of the city. Businesses were unwilling to lease spaces, due to liability concerns and because they wanted to ensure that spaces would be available for their customers' use. In 2000, Flexcar, a Seattle-based carsharing company, became the successor to Carsharing Portland. In 2002, PDOT began allocating reserved on-street spaces for Flexcar vehicles for a modest administrative fee.

As Flexcar's business has grown, PDOT has responded to requests for additional parking spaces on an ad-hoc basis. In late 2003, Flexcar requested 30 new spaces for its rapidly expanding fleet. Within PDOT, concerns were raised about the amount of meter revenue that would be foregone by providing this number of spaces free of charge.

In June 2004, PDOT and Flexcar entered into a one-year carsharing pilot program, with the following objectives:

Provide public support and policy for the support of carsharing in Portland

- Evaluate the public benefits of car sharing in terms of reducing vehicle miles traveled,
   automobile pollution and parking demand, while increasing transit ridership, biking and walking.
- Evaluate operational and enforcement issues related to designating public parking spaces for car share vehicles.
- Ensure that qualified car share organization (s) meet certain eligibility requirements (see Exhibit A).
- Evaluate administrative issues related to the designation of public parking spaces for the car share program, cost of service and fee structure for metered and non-metered spaces.

In June 2005, BTSM extended the Portland Car Share Pilot Program through December 30, 2005, to allow time for the evaluation process and development of a more formal car sharing policy. All procedures, including the maximum number of on-street car share spaces, continued in effect during the extension period.

## Carsharing Background

Car sharing is a shared-use vehicle program offering short-term rental service for organization members and businesses. Vehicles are geographically distributed to serve members and are rented on an hourly and per mile basis. All

## Evaluation criteria

- 1. **Public benefit** to City residents through providing car share services at convenient locations throughout the City.
- Environmental benefits resulting from car share services, including reductions in vehicle miles traveled, automobile pollution and parking demand while increasing transit ridership, biking and walking.
- Operational and enforcement issues related to designating public parking spaces for car share vehicles.
- Administrative issues related to the designation of public parking spaces for the car share program, costs of service and fee structure for metered and non-metered spaces.

vehicle costs (gas, maintenance, insurance and parking) are included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated locations upon completion of the trip to await the next user.

While car sharing is well established in Europe, the first large-scale US program, CarSharing Portland, was started in 1998. There are two basic car sharing business models: for profit and non-profit, which includes cooperatives. In Aspen, Colorado, carsharing is a municipal program. In the United States, only 29% of carsharing organizations operate as for-profits, but these organizations account for 90% of membership and 83% of vehicle fleets.<sup>2</sup>

Today there are 14 carsharing organizations with 62,000 members in 14 states and the District of Columbia.<sup>3</sup> There are two for-profit car sharing companies, Zipcar and Flexcar, operating in multiple cities nationwide. Zipcar operates in Boston, New York, San Francisco and Washington, DC. Flexcar operates in 5 major metropolitan areas, including Portland, has over 350 vehicles and over 30,000 members. Currently, Flexcar and Zipcar service areas only overlap in Washington, DC. Recently, Zipcar and Flexcar each announced plans to expand into new markets, including Portland, Seattle and San Francisco, as a result of receiving multi-million dollar private capital investments.

In the Portland area, Flexcar has over 6,000 members and a fleet of 87 vehicles. Their vehicles are located throughout inner Northwest and Eastside neighborhoods, Downtown and the Lloyd District, Central Eastside, and several suburban transit nodes, including Orenco Station. Of these vehicles, 66 are located in the public right-of-way (33 in metered spaces), 4 in city-owned Smart Park garages, and 17 in private, off-street spaces.

## **PDOT Support for Car Sharing**

Since its inception, PDOT has supported car sharing as a strategy to complement and promote more sustainable transportation modes, reduce car trips and vehicle miles traveled, improve air quality, reduce congestion and promote a balanced transportation system. It should be noted that this support has been offered in a fiscally constrained environment that must address cost of service, operation and enforcement issues related to on-street parking spaces and loss of revenue from dedicated metered parking spaces.

PDOT's support for car sharing is consistent with the Transportation Element (TE) of the City of Portland's Comprehensive Plan:

Support and encourage the growth of car sharing among City residents and businesses through actions that expand the supply of car sharing vehicles at convenient locations and actions that increase the demand for car sharing services.

Policy 6.28 Travel Management, Objective C

Support for car sharing is also consistent with the TE of the City's Transportation System Plan (TSP):

Support regional demand management efforts to reduce vehicle miles traveled per capita and thereby limit increases in traffic congestion and enhance air quality.

## Policy 6.1 Regional Efforts

A July 2005 cost of service survey shows that the average meter revenue per carsharing space would be \$1,500 per year. City-owned SmartPark parking garage spaces typically generate an average of \$2,300 per year in parking fees. For 33 reserved metered spaces and 4 reserved spaces in SmartPark maintenance or enforcement costs.

## **Evaluating the Costs and Benefits of Carsharing**

The principle of carsharing is simple: Individuals gain the benefits of private vehicle use without the costs and responsibilities of ownership. Studies of carsharing in the United States and abroad have consistently reported a variety of positive impacts, including reduced car ownership, vehicle miles and transportation costs, and increased use of transit, walking and biking.

A 2004 national web-based survey of carsharing members conducted by Nelson/Nygaard received responses from members of 14 carsharing organizations, 7 in the United States and 7 in Canada. A total of 1,340 complete and valid responses were received. <sup>4</sup> The survey asked members to respond to a series of statements with strongly agree, agree, disagree or strongly disagree (see Exhibit B). The 108 responses from Portland Flexcar members indicate that carsharing in Portland is producing the positive impacts that have also been reported in other US and European cities. Unless otherwise

indicated, the Portland area survey results cited below were taken from this 2004 Nelson/Nygaard survey.

The City's support of carsharing through the provision of reserved parking spaces, and the associated costs, including foregone meter revenue, cost of service and other operational and enforcement issues, is discussed under Evaluation Criteria #3 and #4 below.

## Evaluation Criterion #1: Public benefit to City residents through providing car share services at convenient locations throughout the City.

## Reduced transportation expenses

Transportation ranks as the second largest household expense (19.3% of total budget), second only to housing (31.5%) and well ahead of food (13.5%) and health care (5.5%). Car ownership costs include car payments, accident insurance, gasoline, maintenance and parking fees.

In 2005 AAA estimated the cost of owning a car is \$524 a month, assuming 10,000 miles of travel per year and \$1.939 per gallon of gasoline (calculations based on Chevy Cavalier, Ford Taurus and Mercury Grand Marquis). Monthly costs for larger vehicles, such as a Chevy Trailblazer or Dodge Caravan, average \$600 per month.<sup>6</sup>

By comparison, the fixed cost of car sharing is low. For a \$75 initial membership fee, Flexcar offers vehicle access, including full insurance and gas, for \$9 an hour. Flexcar members who use a car 25 hours a month spend approximately \$230, and many members spend less by driving vehicles that offer free "bonus" hours.

73.8% of Portland survey respondents reported saving money on transportation.

Many Flexcar members reported reducing the number of cars they own, driving less and using transit, biking or walking for more trips. The cost of a monthly Trimet transit pass is \$55 - \$66, and the costs associated with cycling and walking are even lower. Switching to less expensive travel modes, reducing vehicle miles, and owning fewer cars, all contribute to lower transportation costs.

#### Increased mobility

The transportation cost savings realized through carsharing improves the mobility options of people who are transportation disadvantaged. Through carsharing, lower-income households can gain or maintain vehicle access without bearing the full costs of ownership. At \$9 an hour, many people who wouldn't otherwise have access to a car at all can afford to use a car for a few hours a month.

59% of Portland survey respondents reported that carsharing membership allowed them to get to places they couldn't get to before. 61% reported that they are able to travel more often than they used to. 61.9% of respondents reported feeling more independent.

Flexcar has entered into innovative partnerships to provide vehicle access to underserved populations. For example, Trimet and Flexcar have combined commuter vanpools, MAX-to-office-park shuttles with carsharing technology to serve commuters who live in areas poorly served by

transit. The program allows Flexcar's commuter vans to double as carsharing vehicles at both ends of their daily commute.

Flexcar, Trimet and Portland Community College (PCC) are exploring a partnership to provide a van shuttle to connect residents of the New Columbia housing development to PCC's "One Stop" skills centers and Rivergate job sites.

#### Sustainable land use

Carsharing reduces the number of cars on the road, which decreases overall parking demand. Decreased parking demand reduces the need to construct new parking spaces, which frees up land for more valuable and efficient uses. Portland State University's Broadway Housing building was the first development in the United States to receive a LEED (Leadership in Energy and Environmental Design) point for having a carsharing vehicle on site. This precedent is being replicated at green buildings around the country, and several Portland area LEED projects are planning to incorporate on-site Flexcar vehicles into their projects.

Evaluation criterion #2: Environmental benefits resulting from car share services, including reductions in vehicle miles traveled, automobile pollution and parking demand while increasing transit ridership, biking and walking.

#### VMT reduction

Car sharing inverts the economics of driving, by converting fixed costs into variable costs. When someone owns a car, each additional trip costs very little, because the initial investment in car payments, insurance and taxes are all "sunk costs." With car sharing, the costs of driving are directly proportional to the amount actually driven. As a result, carsharing members have a strong financial incentive to drive less.

34% of Portland respondents reported making more multi-purpose trips, and 61% reported making fewer trips by auto.

51.9% of Portland survey respondents reported driving fewer miles per year. 19.4% reported driving more per year. 28.7 % reported no change in miles driven per year.

Portland Flexcar members reported driving 50.6% fewer miles per year. Annual vehicle miles traveled averaged 2,440 vehicle miles, compared to 4,934 miles per year before becoming members. This resulted in savings of nearly 200,000 gallons of gasoline, and reduced traffic congestion.

In addition to driving less, 24% of Portland respondents also reported being able to sell their car; 36.5% reported being able to sell the family's second car; and 61% reported postponing the purchase of another car.

These Portland-based results are comparable to North American studies that show an average reduction of 44% in vehicle miles or kilometers traveled per user. A web-based survey of 1,340 North American carsharing members conducted May – July 2004 reported that respondents drove 3,850 fewer miles per year, 63% less than previously. A 2003 study of San Francisco's nonprofit City Carshare showed that carsharing reduces vehicle traffic by 13,000 miles and saves 720 gallons of

gas daily. Since joining City Carshare, 30% of its members had sold one or more of their cars, according to the study. 9

## Reduced air and water pollution

Cars produce pollutants that not only enter the air, but when it rains, also end up in stormwater, and ultimately, in streams and rivers. Cars are a significant source of numerous water pollutants, including unburned hydrocarbons, soot particles, toxic heavy metals including copper from brake pads, zinc, cadmium, as well as toxic hydrocarbons from leaking motor fuel, oil, brake fluid and antifreeze. The average car produces one pound of pollutants every 25 miles driven. One quart of motor oil can contaminate 250,000 gallons of water.

The link between car-related pollutants and stormwater is impervious surface. The amount of impervious land coverage such as pavement is linked to the degradation of the environment. In Portland, 49% of the land area is impervious. <sup>12</sup> Carsharing helps reduce the need to build more parking spaces and road lanes. Less impervious land cover and fewer vehicle miles reduces stormwater runoff and water pollution.

Carsharing reduces emissions in several ways. Flexcar's fleet is made up of newer, more fuel-efficient vehicles. Half of their fleet consists of gasoline-electric hybrids. Because Flexcar vehicles are driven throughout the day, there are fewer "cold starts" that typically produce higher levels of emissions. Flexcar also contracts with American Forests to offset 100% of the emissions from its vehicle fleets across the country.

As mentioned above, Portland Flexcar members reported reducing their vehicle miles traveled by an average of 50.6%, dropping from 4,934 miles to 2,440 miles per year after joining. This translates into a reduction of more than 26,000 pounds of hydrocarbons (smog), 201,740 pounds of carbon monoxide (poisonous gas), nearly 13,500 pounds of nitrogen oxides (acid rain), and over 3.6 million pounds of carbon dioxide (global warming).<sup>13</sup>

## Reduced parking demand

One of the major benefits promoted by car-sharing operators is the ability of their programs to reduce private vehicle ownership. By providing access to a vehicle for occasional trips, a household may be able to give up its car, or a second or third vehicle, whether through cost, convenience or environmental motivations. <sup>14</sup> A recently released report by the Transit Cooperative Research Program (TCRP) shows that on average, each car-sharing vehicle replaces 14.9 privately owned vehicles. <sup>15</sup> Fewer cars on the road mean fewer vehicles competing for parking spaces, especially in the downtown core.

20.4% of Portland survey respondents reported being able to sell their car. 36.5% reported being able to sell the family's second car. 61% reported postponing the purchase of another car. As a result of Flexcar membership, 61 members sold a vehicle and 66 postponed the purchase of a vehicle.

These Portland-based results are comparable to U.S. studies and surveys that indicate between 11% and 26% of carsharing participants sold a personal vehicle and between 12% and 68% postponed or entirely avoided a car purchase. <sup>16</sup> An on-line survey conducted for the aforementioned TCRP report

found that 60.9% of respondents agreed or strongly agreed that because they were involved with carsharing, they were able to sell their car, their household's second car, or both. 71% of respondents agreed or strongly agreed that they had postponed buying a car. <sup>17</sup>

In addition to reducing the number of cars they own, carsharing members also travel using alternative modes more frequently than non-members. When car sharing is available at the workplace, members reported commuting by transit, carpool, vanpool, bike or foot, since a carsharing vehicle is available for daytime appointments and errands.

## Increased transit ridership

57.4% of Portland survey respondents reported taking transit more often.

Car sharing members typically ride transit for their daily commutes, adding to peak transit ridership. Many also ride transit to reach the nearest Flexcar during off-peak hours.

## Increased biking

The carsharing member survey did not ask members if they cycle more.

Some Flexcar Portland members depend on bicycles for their daily transportation. Some members ride their bikes to reach a Flexcar, which are all marked with a signature "Options Zone" orange bike rack.

## **Increased** walking

56.1% of Portland survey respondents reported walking more often.

Increased walking can help the 58% of Oregonians who are obese or overweight increase their level of physical activity, reach a healthy weight, and prevent weight-related illnesses.

## Evaluation Criterion #3: Operational and enforcement issues related to designating public parking spaces for car share vehicles.

Several PDOT divisions are involved in the installation, operation and enforcement of parking spaces reserved for Flexcar vehicles. Over time, informal procedures for requesting and installing spaces have been developed. PDOT and Flexcar have worked together to find solutions to problems associated with operations and enforcement. Some remaining issues include the following:

1. Lack of advance notification of street cleaning and street repair occasionally results in towing of Flexcar vehicles. Flexcar has asked that their vehicles not be towed during street cleaning. Parking Enforcement is concerned about creating the appearance of inconsistent enforcement.

<u>Proposed solution</u>: Ensure that Flexcar receives advance notice of all events, street cleaning, street repair projects that require on-street vehicles to be moved. Communicate the importance of advance notification to all contractors.

- 2. The driving public does not always understand carsharing signage; non-members sometimes park in spaces reserved for Flexcar and get towed. Flexcar has asked that "violators will be towed" signs be added to carsharing signage. Parking Enforcement's experience suggests that towing signs are ineffective. Painted boxes on the pavement delineating the spaces appear to have resolved this problem.
- 3. Police vehicles park in Flexcar spaces, especially near the Courthouse. The City does not issue citations or tow police vehicles. Flexcar would like to meet with Portland Police Bureau (PPB) to educate officers about Flexcar and ask for their cooperation.

Proposed solution: PDOT could facilitate a meeting with appropriate PPB staff.

4. Requests by Flexcar for new on-street spaces are unpredictable and often associated with very short timelines, making it difficult for the Bureau of Maintenance and other PDOT divisions to manage its work.

<u>Proposed solution</u>: Establish standard timelines and procedures for requesting new spaces or removing existing spaces, completing work orders, notifying adjacent business owners, etc.

Evaluation Criterion #4: Administrative issues related to the designation of public parking spaces for the car share program, costs of service and fee structure for metered and non-metered spaces.

Under the one-year pilot program, PDOT has supported carsharing by providing up to 50 reserved on-street metered parking spaces and BGS has provided 4 off-street spaces in City-owned SmartPark garages for a nominal fee.. There is no limit on the number of reserved unmetered on-street spaces. During the pilot, Flexcar had 66 reserved on-street spaces (33 metered) and 4 spaces in City SmartPark garages.

Installation of an on-street parking space for carsharing includes signage, an orange "Options Zone" bike rack, and painting a box on the pavement to mark the space. Parking Operations estimates the cost of installation at \$264 per space. If Flexcar provides the bike rack, the City provides a credit towards the cost of installation.

A July 2005 cost of service report prepared by PDOT's Parking Operations shows that the average meter revenue per carsharing space would be \$1,500 per year. For 33 vehicles in metered spaces, this constitutes a \$52,500 annual subsidy. The \$1,500 figure may overstate the actual amount of foregone meter revenue, because it does not reflect the revenue that is collected at other metered spaces nearby, assuming capacity is available.

PDOT's occupancy data suggest that many, but not all, car-sharing spaces are located in districts with average occupancy rates of double check this. However, because occupancy rates are derived from meter revenue amounts, these rates do not reflect drivers who park without paying or exceed the time they paid for. Therefore, occupancy rates are higher than these figures indicate.

In light of PDOT's projected budget shortfall for FY 2006-2007 of approximately \$8 million, the continued support of carsharing through the provision of free or discounted on-street metered

parking spaces is under review. Meter revenue is an important funding source for capital projects such as the streetcar and light rail on the transit mall.

On the one hand, the City of Portland provides various levels of subsidy to numerous for-profit organizations, including hotels, taxis and companies with truck loading zones. A conservative estimate of the value of parking spaces provided for hotel, taxi and loading zones totals more than \$1 million in foregone meter revenue per year. On the other hand, these categories of reserved spaces may be used by multiple vehicles, whereas carsharing spaces are reserved for a single vehicle and, at least for the time being, a single carsharing organization, Flexcar.

While most carsharing organizations nationally park their vehicles off-street, provision of on-street parking for carsharing is increasingly common.

In 2004, Nelson/Nygaard Associates conducted a survey of 49 carsharing "partner" organizations in the US and Canada. They defined carsharing partner organizations as private and public organizations that provide support to carsharing organizations. Of those surveyed, 7 jurisdictions reported that they provide on-street parking for carsharing: Portland, Seattle, Oakland, Cambridge, Arlington, University of NC-Chapel Hill and Vancouver, BC. <sup>18</sup> In 2005, Washington, DC began to provide on-street parking for carsharing.

Of the 49 surveyed, 26% of carsharing partner organizations reported providing free parking to carsharing vehicles. In 60% of cases, these spaces would otherwise generate revenue, either from meters or from permits. Only 12 respondents reported charging for parking, and of those, 4 provide the spaces at a discount. <sup>19</sup>

Cities have split on whether to charge car-sharing operators for parking. According to one study, 73% of car-sharing programs reported receiving parking subsidies—60% from public entities, 33% from private companies, and 20% from both public and private sources. One exception to this general trend is Boston, where carsharing has become so popular that the State of Massachusetts levies a \$10 annual user free from Zipcar members. The tax is also charged on car rentals and tourist tours and goes towards the new Boston Convention Center. Minnesota charges a state motor vehicle rental tax of 6.2%, which also applies to carsharing.

Table 1. Carsharing Parking

FLEXCAR	Seattle	Vancouver	Wash.,	Boston**	SFO*	Arlington	PDX	Average <sup>1</sup>
*Co-op	Metro	BC*	DC			Co., VA		
** Zipcar								
Carsharing	130	112	97	250	100	27	86	119
spaces								
On-street	20	55	25 new	0	0	21	66	20
carsharing		residential						
spaces		zones only						

<sup>&</sup>lt;sup>1</sup> Average does not include Portland.

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% on-	15%	Less than	26%	0%	0%	78%	77%	17%
street		50% [49%]						
Metered	1	0	0-25	0	0	21	33	6
carsharing			$[12.5]^2$					
spaces								
% metered	>1%	0	0 - 26%	0%	0%	78%	38%	5%
			[12.5%]					
			3					
Off-street	109	Majority	72	250	100	6	214	87
carsharing		[57]						
spaces								
% off-	84%	More than	74%	100%	100%	22%	24%	83%
street		50% [51%]						

An informal PDOT survey of five cities and one urban county with established carsharing markets (Seattle, Vancouver, B.C., Washington, DC, Boston, San Francisco, Arlington County, VA and Portland) shows more than three-quarters (83%) of the carsharing spaces in each location are offstreet. By comparison, in Portland off-street carsharing spaces make up less than a quarter of the total, 24%.

The average number of metered carsharing spaces is 6 per location, or 5% of the total in the cities surveyed. Boston, San Francisco and Vancouver provide <u>no</u> metered spaces and Seattle provides only one. By comparison, Portland currently provides 33 metered spaces.

## **Utilization Rates and Profitability**

One way to evaluate the value of supporting carsharing is to examine how much carsharing vehicles were driven during the pilot program. During the pilot project (July 2004 - June 2005), Flexcar reported the following utilization rates per vehicle:

Table 2. Flexcar Parking Utilization Rates

Overall	Average	Average	Average trips	Average trips	Average
annual	billable hours	usage hours	per day	per month	distinct
averages	per day	per day			drivers per
					month
Off-street	3.75	5.28	2.05	48.24	20.09
spaces (19)					
On-street	3.67	5.42	1.84	44.61	18.80
spaces (66)					
All spaces	3.68	5.38	1.88	45.42	19.08

<sup>&</sup>lt;sup>2</sup> Washington, DC will install 25 new on-street carsharing spaces after their public outreach process is complete; it is not yet clear how many will be metered spaces.

<sup>3</sup> Ibid.

<sup>&</sup>lt;sup>4</sup> Four of these off-street spaces are located in City-operated SmartPark garages.

The overall utilization rate for off-street spaces is skewed upward by the very high utilization rates of two spaces: OHSU Baird Hall and OHSU Gaines Street, with 6.23 and 12.35 average billable hours per day, respectively.

Initially, the City provided public parking spaces free of charge to help carsharing get established during its start-up phase. Financial information provided by Flexcar indicates that during the pilot program, its billable hours grew from 8,458 per month to 10,399 per month; monthly trips increased from 2,946 to 3,430 and membership increased from 4513 to 5819. While Flexcar has expanded its fleet, membership and utilization rates in the Portland market, it has not yet shown a profit. Monthly losses are decreasing over time, and were \$8,308 in August 2005. Flexcar expects to become profitable some time in 2006.

In August 2005, Revolution LLC, a Washington, DC-based investment firm owned by Steve Case, announced that it, along with four smaller partners, had invested an undisclosed amount in Flexcar. Steve Case was co-founder of America Online (AOL). It also announced that Lee Iacocca, former Chief Executive of Chrysler Corporation, had signed on as an investor and senior advisor to Flexcar. Although Flexcar's CEO, Lance Ayrault, declined to discuss the terms of the investment it had received, he did say that it surpassed the \$10 million that Zipcar had just raised. <sup>23</sup>

As a result of the investment, Flexcar plans to double its fleet of 450 cars and expand into new markets, including New York, Boston, Miami, Philadelphia, San Francisco and Austin and more by the end of 2006. It hopes to double its membership to 60,000 by the end of the year. It will also begin offering onboard navigation systems, free iPod adaptors for in-car use and a substantially improved reservations website. Based on national surveys and its own market analysis, Flexcar expects to grow to serve a million members, sharing 20,000 cars, within 5 years. <sup>25</sup>

The investment came just over a month after Flexcar's primary competitor, Cambridge, Mass-based Zipcar, received a \$10 million investment from private-equity firm Benchmark Capital Management Co. LLC, based in Menlo Park, California. Zipcar has 45,000 members in 21 cities, and plans to expand into 25 major markets by 2009, starting with an aggressive West Coast expansion that includes Seattle, Portland and San Francisco. Zipcar recently said it had achieved profitability in all of its markets, a milestone Flexcar is close to meeting as well.

These recent developments suggest that carsharing companies in Portland and elsewhere should no longer be considered start-ups, which raises the question as to whether a public subsidy is still warranted.

#### Conclusions

Flexcar Portland meets the eligibility requirements established during the pilot program. Most operational and enforcement issues associated with the Flexcar program have been resolved; remaining issues will be addressed as PDOT develops more formal carsharing policies and procedures.

The information provided by Flexcar and gathered from other sources clearly shows that Flexcar produces measurable public and environmental benefits. These benefits include reduced transportation expenses, increased mobility for lower-income residents, reduced air and water

pollution, vehicle miles traveled and parking demand, as well as increased use of transit, biking and walking. The benefits of supporting carsharing not only conform to PDOT's own policies, they also help make Portland a sustainable and healthy community.

In light of the many benefits provided by carsharing, the City's relatively modest subsidy has been a worthwhile investment of scarce resources. However, as additional carsharing companies are expected to enter the Portland market, and Flexcar and Zipcar have either achieved or are very close to achieving profitability, it is time to begin developing the next phase of carsharing policies that reflect these new realities.

## **Next Steps: Develop Policy Guidelines**

The next phase of the pilot program evaluation is the development of formal policy guidelines, which will include a proposed permit fee and procedures for reserving public parking spaces that can accommodate multiple carsharing organizations. As Flexcar continues to grow and other carsharing organizations enter the Portland market, there is a clear need for efficient, consistent policies and procedures to guide the allocation, installation and enforcement of parking spaces, amount and type of public support, and measurement of costs and benefits. In consultation with Flexcar, affected PDOT divisions and other stakeholders, recommended policies and procedures will be developed for City Council consideration.

EXHIBIT A

## PROCEDURES FOR CITY OF PORTLAND CAR SHARE PILOT PROGRAM

#### **POLICY**

The City of Portland recognizes that car sharing offers potential benefits to the City and to its residents. Car sharing has the potential to reduce auto dependence and air pollution from vehicle emissions by allowing individuals to reduce car ownership and take more trips by transit, biking and walking. Car sharing is expected to reduce the number of cars on the road and reduce the number of vehicle miles traveled. In order to promote car sharing in Portland, the Office of Transportation will conduct a Car Share Pilot Program allowing designated on-street parking spaces to be used for car share vehicles.

#### **DEFINITIONS**

For purposes of this policy the following definitions shall apply:

"Car sharing" is a shared-use vehicle program that provides a geographically distributed fleet of vehicles to serve its members.

"Car sharing organization" is an organization that provides pre-approved members with access to self-driven vehicles at geographically distributed locations for an hourly rate that includes fuel, maintenance, and insurance.

"Car share permit" is the permit issued by the City Traffic Engineer to identify car share vehicles that may park in designated on-street or City-owned off-street spaces. Permits must be displayed so that the effective date of the permit is clearly visible from outside the vehicle.

## **PURPOSE**

The Car Share Pilot Program is intended to fulfill the following purposes:

- A. Provide public support and legal authority for the establishment of car sharing in Portland.
- B. Evaluate the public benefit of car sharing in terms of reducing vehicle miles traveled, automobile pollution and parking demand while increasing transit ridership, biking and walking.
- C. Evaluate operational and enforcement issues related to designating public parking spaces for car share vehicles.
- D. Ensure that qualified car share organizations meet certain eligibility requirements.

E. Evaluate administrative issues related to the designation of public parking spaces for the car share program, cost of service and fee structure for metered and non-metered spaces.

## GENERAL REQUIREMENTS

- A. The Car Share Pilot program will continue until July 2005.
- B. In order to have car share spaces designated for their vehicles, a car share organization shall meet the definition of a car share organization, meet eligibility requirements, provide car share services in geographically distributed locations and follow the process set forth below.
- C. All car share vehicles parked in designated on-street or City-owned off-street car share spaces shall obtain and properly display a car share vehicle permit as provided below.
- D. No more than 50 on-street metered parking spaces or City owned off-street spaces will be allowed for designation as car share spaces during the term of the pilot program. No maximum number is set for car share spaces designated in non-metered on-street spaces.
- E. The Bureau of Transportation System Management (BTSM) is authorized to establish fees based on cost-of-service for the installation and maintenance of any on-street or City owned off-street car share space.

## **ELIGIBILITY REQUIREMENTS**

All of the following eligibility requirements must be met in order for a car share organization to receive permits for its vehicles and have public parking spaces designated according to the designation process:

- A. The organization must meet the definition of a "car share organization" above.
- B. The organization must provide financial documentation regarding profitability to BTSM. This information will be treated as confidential as permitted by the Oregon Public Records Law.
- C. The organization must agree to continuously offer car share services at approved locations. Designated car share locations may be changed or removed by following the process prescribed below.
- D. The organization must provide proof of general liability insurance as required by BTSM.

## PROCESS FOR DESIGNATION OF PUBLIC CAR SHARE SPACES AND OBTAINING CAR SHARE VEHICLE PERMITS

A. An eligible car share organization may apply for designation of a car share parking space through application with the City Traffic Engineer and payment of the installation fee specified below. A separate application will be filed for each parking space where a car share designation is requested.

- B. Upon receipt of the application, after eligibility is confirmed, the City Traffic Engineer shall consult with the applicant regarding preferred location for the space. The final determination of location is at the discretion of the City Traffic Engineer. A car share organization shall notify the City Traffic Engineer immediately if a designated car share location is removed from service.
- C. Designated car share locations are subject to removal due to construction, weather, and other circumstances at the discretion of the City Traffic Engineer. If the City removes a space, the City will attempt to notify the car share organization and attempt to relocate the space to meet the needs of all parties including those of the City.

#### **FEES**

- A. For any new car share spaces designated after approval of the pilot program, whether metered, non-metered or City owned off-street spaces, an installation fee will be assessed based on the most recent cost of service study. The installation fee will not exceed \$100 per car share space.
- B. If a car share organization provides a City approved "Options Zone" bike rack for a designated car share space, the cost of the bike rack (up to \$200 per rack) less the cost of installation (\$40 per rack) will be credited against the fee assessed for the car share space.
- C. The pilot program is based on the assumption that participating car share organizations are not yet economically viable and are in need of discounted car share spaces in the public right of way. A car share organization with designated car share spaces shall notify the City immediately if the organization becomes profitable. Upon such notice of profitability, the City may adjust the fee structure for designated car share spaces to reflect full cost of service and full meter revenue recovery.

## **ENFORCEMENT**

- A. Only car share vehicles properly displaying a valid car share permit may park in designated car share spaces.
- B. Designated car share spaces are in effect all hours all days.
- C. Car share organization is responsible for any improper use of a car share permit issued to the organization for its vehicles, unless previously reported as lost or stolen.
- D. Car share organization is responsible for payment of all parking violations issued to car share vehicles

#### RESPONSIBILITIES OF THE CAR SHARE ORGANIZATION

A car share organization that participates in the Car Share Pilot Program shall provide the following information to the City at the end of the pilot program:

- A. Vehicle usage and turnover at designated car share spaces. If requested by the City, the car share organization shall provide this information on a quarterly basis.
- B. The impact of the car share organization's program on vehicle miles traveled, air pollution, transit, biking and walking.
- C. Financial information showing the car share organization's current status in terms of profitability. If requested by the City, the car share organization shall provide this information on a quarterly basis. This information will be treated as confidential as permitted by the Oregon Public Records Law.

## **EVALUATION**

At the conclusion of the Car Share Pilot Project, BTSM shall evaluate the pilot project in terms of the following factors:

- A. Public benefit to City residents through providing car share services at convenient locations throughout the City.
- B. Environmental benefits resulting from car share services including reductions in vehicle miles traveled, automobile pollution and parking demand while increasing transit ridership, biking and walking.
- C. Operational and enforcement issues related to designating public parking spaces for car share vehicles.
- D. Administrative issues related to the designation of public parking spaces for the car share program cost of service and fee structure for metered and non-metered spaces.



# Flexcar Portland Member Survey Results May 2004

## 108 Flexcar Portland members responded to the survey as follows:

#### **Vehicle Miles Traveled (VMT) reduction**

Members surveyed drive, overall, 50.6% fewer miles per year since they started using car sharing.

- \* Miles before: 532,957
- \* Miles after: 269,475

Reduction in VMT averages 2,440 vehicle-miles per year per member.

51.9% (56 of 108) of members experienced a decrease in miles driven per year since they started using car sharing.

19.4% (21 of 108) of members experienced an increase in miles driven per year since they started using car sharing.

28.7% (31 of 108) of members experienced no change in miles driven per year since they started using car sharing.

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When respondents were asked, because they are involved in car sharing, whether they strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with each of the following statements, the results were as follows:

#### Walks more often

56.1% of respondents strongly agrees or agrees

18.7% of respondents disagrees or strongly disagrees

#### Uses transit more often

57.4% of respondents strongly agrees or agrees

18.5% of respondents disagrees or strongly disagrees

## Saves money on transportation

73.8% of respondents strongly agrees or agrees

16.8% of respondents disagrees or strongly disagrees

#### Was able to sell my car

20.4% of respondents strongly agrees or agrees

23.7% of respondents disagrees or strongly disagrees

## Was able to sell the family's second car

36.5% of respondents strongly agrees or agrees

28.8% of respondents disagrees or strongly disagrees

#### Am able to get to places I couldn't get to before

**59.0%** of respondents strongly agrees or agrees

13.3% of respondents disagrees or strongly disagrees

#### Am able to travel more often than I used to

**61.0%** of respondents strongly agrees or agrees

17.1% of respondents disagrees or strongly disagrees

## Can make more multi-purpose trips

34.0% of respondents strongly agrees or agrees

29.1% of respondents disagrees or strongly disagrees

## Feel more independent

61.9% of respondents strongly agrees or agrees

14.3% of respondents disagrees or strongly disagrees

### Have postponed buying another car

61.0% of respondents strongly agrees or agrees

15.2% of respondents disagrees or strongly disagrees

#### Make fewer trips by auto

61.0% of respondents strongly agrees or agrees

18.1% of respondents disagrees or strongly disagrees

## \*Respondents were not asked whether they cycle more

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If car sharing services stopped, **38.5% of respondents said they would buy a car**. Assuming that 38.5% of the 4600 car share members in Portland would buy a car if car sharing ended, this means an **additional 1771 vehicles** would be added to Portland's streets.

Figures were derived from web-based carsharing member survey data collected by Adam Millard-Ball for his report, "Car Sharing: Where and How it Succeeds," unpublished interim report by Nelson/Nygaard for Transit Cooperative Research Program, November 2004.

## **Endnotes**

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<sup>&</sup>lt;sup>1</sup> Telephone interview with Francie Royce, former PDOT employee, September 2005.

<sup>&</sup>lt;sup>2</sup> Shaheen, Susan A., Cohen, Adam and Roberts, J. Darius (2002). Carsharing in North America: Market Growth, Current Developments, and Future Potential.

<sup>&</sup>lt;sup>3</sup> "Clearing the Roads." Time. February 21, 2005, pp. 52

<sup>&</sup>lt;sup>4</sup> Nelson/Nygaard Consulting Associates (2004), *Carsharing: Where and How It Succeeds*, Prepared for Transit Cooperative Research Board, pages 3-2 and 3-3.

<sup>&</sup>lt;sup>5</sup> Flexcar, Key Statistics Regarding Flexcar, Carsharing, and their Benefits, undated publication, Washington, DC.

<sup>&</sup>lt;sup>6</sup> American Automobile Association (2005) Your Driving Costs. Available at www.ouraaa.com/news/library/drivingcost/driving.html

<sup>&</sup>lt;sup>7</sup> Shaheen, Susan, A. Cohen, Adam and Roberts, J. Darius (2002). *Carsharing in North America: Market Growth, Current Developments and Future Potential.* 

<sup>&</sup>lt;sup>8</sup> Nelson/Nygaard Associates (October 2004) *Car-Sharing: Where and How It Succeeds.* Interim Report prepared for Transit Cooperative Research Program, 3-12.

<sup>&</sup>lt;sup>9</sup> University of California Berkeley Parking and Transportation. *City Carshare Is Now On Campus*. <a href="http://pt.berkeley.edu/citycarshare.html">http://pt.berkeley.edu/citycarshare.html</a>, as cited in Shaheen, Cohen and Roberts (2002). *Carsharing in North America: Market Growth, Current Developments and Future Potential*, 13.

<sup>&</sup>lt;sup>10</sup> City of Portland Bureau of Environmental Services (2003) "Stormwater Landscape Swales: A natural way to reduce and clean water from parking lots and roads," educational poster.

<sup>11</sup> Ibid.

<sup>&</sup>lt;sup>12</sup> City of Portland Bureau of Environmental Services (2001) "Clean Rivers Start with You," brochure #OD-0125 3-01.

<sup>&</sup>lt;sup>13</sup>Factors derived from EPA's National Vehicle and Fuel Emissions Laboratory Standards for Passenger Cars and Light Trucks, Available at Lloyd District TMA website: http://www.ldtma.com/2001%20summary.pdf

<sup>&</sup>lt;sup>14</sup> Millard-Ball, Murray, Gail and ter Schure, Jessica (2005), *Car-sharing as a Parking Management Strategy*, unpublished manuscript, 4.

<sup>&</sup>lt;sup>15</sup> Millard-Ball, Murray, and ter Schure (2005) *Car-sharing as a Parking Management Strategy*, unpublished manuscript, 7.

<sup>&</sup>lt;sup>16</sup> Shaheen, Cohen and Roberts (2005), Carsharing in North America: Market Growth, Current Developments and Future Potential, 3.

<sup>&</sup>lt;sup>17</sup> Millard-Ball, Murray, and ter Schure (2005), Car-sharing as a Parking Management Strategy, unpublished manuscript, 5.

<sup>&</sup>lt;sup>18</sup> Nelson/Nygaard Consulting Associates (2004), *Carsharing: Where and How It Succeeds*, Prepared for Transit Cooperative Research Board, 4-7.

<sup>&</sup>lt;sup>19</sup> Ibid, 4-6.

<sup>&</sup>lt;sup>20</sup> Shaheen, Susan, Schwartz, A. and Wipyewski, K (2004), "Policy Considerations for Carsharing and Station Cars: Monitoring Growth, Trends and Overall Impacts." In *Transportation Research Record: Journal of the Transportation Research Board, No. 1887*, TRB, National Research Council, Washington, D.C., 128-136.

<sup>&</sup>lt;sup>21</sup> Shaheen, Cohen and Roberts (2005), Carsharing in North America: Market Growth, Current Developments and Future Potential.

<sup>22</sup> Hourcar. Rates & Hubs. <a href="http://www.hourcar.org/rates">http://www.hourcar.org/rates</a> content.html, as cited in Shaheen, Cohen and Roberts (2005), Carsharing in North America: Market Growth, Current Developments and Future Potential, 13.

<sup>23</sup> Cook, John, "In the Money: Flexcar," *Seattle Post-Intelligencer* (2005). http://seattlepi.nwsource.com/venture/funding.asp?company =Flexcar.

<sup>24</sup> "Steve Case's Revolution Acquires Flexcar: Lee Iacocca to Become Senior Advisor; Deal to Accelerate Car-Sharing Coast-to-Coast" *PR Newswire*,

http://www.forbes.com/execpicks/prnewswire/feeds/prnewswire/2005/08/05/31/prnewswire2

25 "Steve Case's Revolution Acquires Flexcar: Lee Iacocca to Become Senior Advisor; Deal to Accelerate Car-Sharing Coast to Coast," Flexcar Press Release, August 31, 2005.

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